



Door & Hardware  
Federation

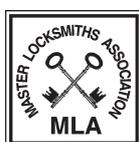
raising standards

# best practice guide

Padlocks & padlock fittings to

# BS EN 12320: 2001

in association with



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BS EN 12320: 2001  
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## • DHF BEST PRACTICE GUIDES

This publication is one in a series of guides addressing the major issues that should be considered when specifying, ordering or using the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the new European product standard. The reader will then be in a position to seek further specialist advice where necessary and recognise **GENUINE** conformity to the new standards.

## • BS EN 12320 Building Hardware - Padlocks & padlock fittings

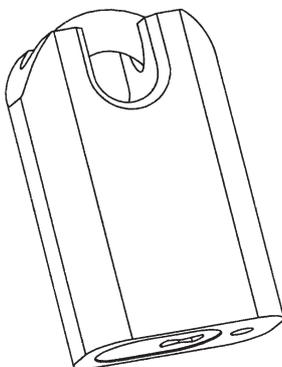
This standard details performance requirements and test methods in relation to corrosion resistance, and security, with information on classification and marking.

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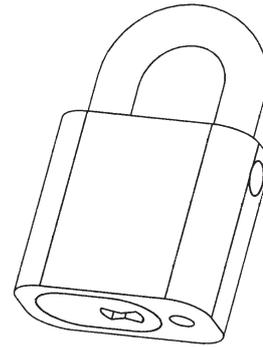
## • SCOPE

- a) This European standard specifies performance requirements and describes test methods for strength, security, functions and corrosion of padlocks and padlock fittings used in building applications, but excluding cables and chains.
- b) Requirements which relate to security are classified in six grades, based on performance tests that simulate attack.
- c) Human intervention, durability, manipulation and picking tests are not included in this standard.

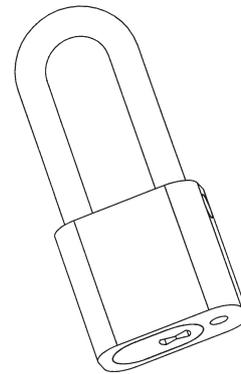
## • TYPES OF PADLOCKS & FITTINGS



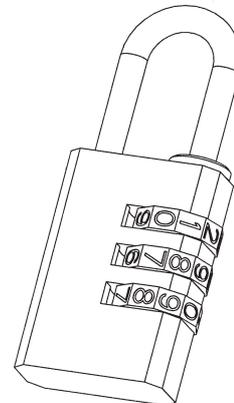
*Closed Shackle*



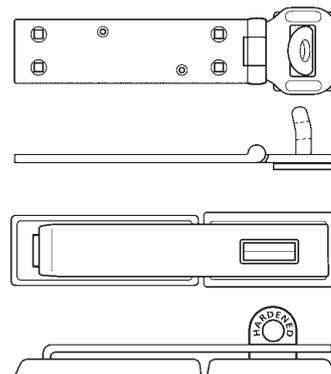
*Open Shackle*



*Long Shackle*



*Combination*

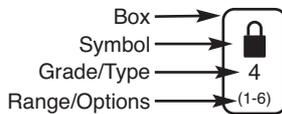


*Padbar  
Hasp & Staple*

## • CLASSIFICATION

BS EN 12320 classifies padlocks and padlock fittings by using a 7 digit coding system. A similar classification applies to all building hardware product standards so that complementary items of hardware can be specified to, for instance, a common level of corrosion resistance, category of use, etc. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

The DHF recommends the use of graphic icons to enhance clarity of information and has devised a system to facilitate assimilation of the various product classifications. Each feature within the product classification is represented by an icon comprising four elements; Symbol, Grade/Type, Range/Options and Box:-



The icon above is for a product which meets Grade 4 in the Security classification, where EN 12320 stipulates a range of six possible grades from 1 to 6.

Full details on the ABHM graphic icons system can be found at [www.dhfonline.org.uk](http://www.dhfonline.org.uk)

**Digit 1**  
**Category of use**  
 No requirement

**Digit 2**  
**Durability (no. of test cycles)**  
 No requirement

**Digit 3**  
**Door mass**  
 No requirement

**Digit 4**  
**Fire resistance**  
 No requirement

**Digit 5**  
**Safety in use**  
 No requirement

**Digit 6**  
**Corrosion resistance**  
 2 grades: 1, internal applications, 3\* external applications.

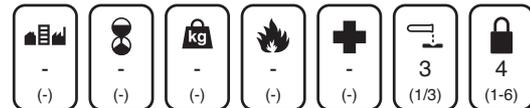
- grade 1: internal applications
- grade 3\*: external applications

\*The standard has been published containing an error. BSI is making arrangements to correct this.

**Digit 7**  
**Security Requirements**  
 6 grades where 6 is the highest and 1 the lowest.

## • EXAMPLE

The following marking denotes a padlock or padlock fitting which is suitable for use on internal or external applications and has a security grade 4:-

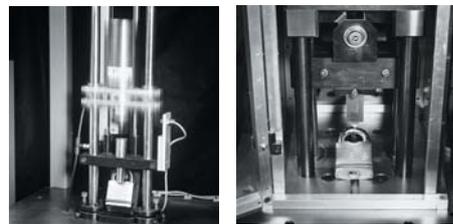


## • EXAMPLE OF BEST PRACTICE

Subject to the application, decide the level of security required and use a padlock and fitting of matching classification.

The security of the locking devices may be compromised if, for example, a low graded padlock is used in conjunction with a high graded padlock fitting.

## • EXAMPLE OF PADLOCK TESTING TO BS EN 12320



**Table 1: Security Requirements - Padlock & Fittings**

Requirement	Test Parameter*	Grades						Unit
		1	2	3	4	5	6	
Minimum number of effective key differs	n	300	1000	2500	5000	10000	20000	-
Non-interpassing of keys with just one interval differ-	Torque on key	M1	1	1,5	1,5	1,5	1,5	Nm
Resistance to force on cylinder plug or locking mechanism	F1	-	-	4	5	10	15	kN
Resistance to torque on cylinder plug or locking mechanism	M2	-	2,5	5	15	20	30	Nm
Resistance to pulling of shackle and staple	F2	3	5	15	30	70	100	kN
Resistance to twisting of shackle and staple	M3	40	100	200	450	1200	2500	Nm
Resistance to cutting of shackle and staple	F3	6	15	25	35	70	100	kN
Resistance to impact on padlock body	T	-	-	-20	-20	-40	-40	°C
shackle and staple at low temperature	m	-	-	1250	3050	6550	7150	g
	h	-	-	800	1000	1400	1500	mm
Resistance to drilling of padlock body, shackle and staple	t	-	-	-	2	4	8	min
Resistance to sawing of padlock body, shackle and staple	t	-	-	-	2	4	8	min

**Note:** Classification is in six grades where grade 1 has the lowest requirement.

\*Refer to the full standard for details.

### • MARKING

The standard requires that the classification relevant to the padlock or padlock fitting shall be quoted in the accompanying documentation, on its labelling or packaging and/or by marking the product itself or by more than one of these methods.

The marking/labelling shall include the following:

- (a) manufacturer's name or trademark, or other means of identification
- (b) product model identification
- (c) the 7 digit classification
- (d) number of this European standard
- (e) year and week of manufacture

### • CE MARKING

BS EN 12320 has not been designated as a harmonised product standard under the Construction Products Directive and therefore CE marking of such padlocks and padlock fittings is NOT permitted.

British standards can be obtained from  
BSI Customer Services,  
389 Chiswick High Road, London W4 4AL  
Tel: +44 (0)20 8996 9001  
E-mail: [cservices@bsi-global.com](mailto:cservices@bsi-global.com)

## Additional important considerations

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting padlocks and padlock fittings. These not only include sourcing products from a reputable manufacturer, but also quality assurance, support services and unequivocal conformity to the standard as detailed below:

### • QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level. All ABHM members operate recognised BS EN ISO 9000 Quality Assurance Schemes.



Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

### • SUPPORT SERVICE

The correct specification and installation of padlocks and padlock fittings is essential to ensure that they are able to operate efficiently within the performance levels described in this standard. Specialist advice is available from ABHM members in support of their products from specification stages through supply to effective operation on site.

### • CONFORMITY

Conformity to the standard must be clearly and unequivocally stated. Such phrases as “tested to ...”, “designed to conform to ...”, “approved to ...”, are not sufficient. To avoid misleading or confusing claims it is recommended that one of the following phrases is used when stating conformity:

- a) This product has been successfully type-tested for conformity to all of the requirements of BS EN 12320. Test reports and/or certificates are available upon request.
- b) This product has been successfully type-tested for conformity to all of the requirements of BS EN 12320. Regular audit testing is undertaken. Test reports and/or certificates are available upon request.

It is recommended that an ARGE Declaration of Compliance is also completed, as this gives a clear and unambiguous method of demonstrating test evidence and compliance.

## DHF PROFILE

The Door and Hardware Federation (DHF) was created by a merger between the Association of Building Hardware Manufacturers (ABHM) and the Door and Shutter Manufacturers Association (DSMA), both of which have established excellent reputations in their respective industries, particularly in the area of technical expertise and the development of performance standards in national and international arenas.

The DHF aims to build on these reputations by exploiting the synergies that exist between the two associations and combining their technical and financial resources to provide a unified, authoritative voice for the entire industry.

The DHF and its members have consistently risen to the challenges posed by an ever-changing market, creating products which meet the needs of a changing world and developing performance standards alongside national and international organisations, such as BSI and CEN, which enable the industry to select and compare products with confidence.

The federation now represents the interests of manufacturers and installers of industrial, pedestrian and garage doors as well as manufacturers of locks and building hardware. It provides professionals in all sectors of the building industry with a single source for technical expertise and creates a more powerful and representative lobbying force, with the ultimate aim of assuring progress and maintaining standards throughout the industry.

### British Hardware Federation

BHF represents some 3,500 ironmongery, hardware and DIY shops in the United Kingdom. In addition, it embraces the Independent Builders Merchants Service, a specialist division of the Federation.

### Builders Merchants' Federation

The Builders Merchants' Federation represents the majority of bona fide merchants in the UK. Its members have a combined turnover of £6 billion a year. Members range from large nationals to small independents.

### Guild of Architectural Ironmongers

Founded in 1961, the Guild represents 95% of bona fide distributors within the UK and the majority of manufacturers of architectural ironmongery. The Guild serves to further all aspects of architectural ironmongery by promoting the interchange of information to encourage better product design and high professional standards of ironmongery scheduling and specification.

### Master Locksmiths Association

The MLA is recognised by the Home Office, Police and The British Standards Institution as being the authoritative body for locksmithing. It was formed to promote the membership to Central and Local Governments, Industry, Commerce and the Public.

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Unless stated otherwise, references in this document to BS EN 12320 refer to BS EN 12320: 2001.

Information in this guide is correct at time of publication and intended for guidance only. Information may since have changed and readers should consult the appropriate standards and authorities to confirm its veracity.